There was a small article in the Victoria Advocate last week indicating that Uranium Energy Corporation (UEC) is on the verge of receiving the permits required to proceed with uranium mining in Goliad County. The Goliad County Groundwater Conservation District (GCGCD) has been fighting in the courts to keep this from happening for six years and they tell me that there are still issues that need to be addressed and, to their knowledge, the permit is not imminent.

Typically, in Uranium in-situ mining (uranium leaching) several injection wells are drilled to inject fluids that will dissolve the uranium the sands and the dissolved uranium is recovered in a production well. This recovered fluid is then processed to recover the uranium.

My opinion is that the uranium mining operations will contaminate our aquifers. As a Drilling Engineer with over 40 year's experience, I will point out the similarities of uranium mining to oilfield operations. One, the wells are cased and cemented using oilfield drilling techniques. Two, the wells are put into production using gravel packs, an oilfield completion technique. Three, the wells are produced using oilfield water flooding techniques. Finally, if the injection wells plug up, as in common in water flooding projects, the wells are acidized using oilfield remedial techniques. In my mind, this qualifies as a drilling, completion, and producing operation, not a mining operation as it has been craftily categorized.

There are some differences. Oil and gas operations occur at thousands of feet, whereas, the uranium operations occur at hundreds of feet, and in the case of Goliad county at about one hundred feet. In the case of oil and gas operations, the potable water aquifers would have been isolated with casing and cement. However, in the uranium mining operations the operation occurs directly in the Goliad County potable water aquifers.

The oil and gas regulatory agency, the Texas Railroad Commission (TRRC), would not have allowed this type of operations in potable water aquifers. They have strict rules about how potable aquifers should be protected. This includes all potentially usable aquifers. This ban is based on their extensive experience concerning pollution of potable water aquifers by oil and gas operations. Before the TRRC began regulating oil and gas operation there were numerous instances of these operations contaminating aquifers.

In uranium mining (a misclassification as detailed above), The Texas Commission for Environmental Quality (TCEQ) grants the permits and the Environmental Protection Agency grants an aquifer exemption, based on paperwork submitted by the Mining Company showing that the aquifer is not continuous and that the operations will not contaminate neighboring water wells. The Mining Company is then free to inject and release contaminants into a potable water aquifer. Our aquifers are not confined. They are continuous over Goliad County and surrounding areas and eventually migrate to the Gulf of Mexico.

There are things that can be done to get assurance that our aquifers will not be contaminated. Any prudent operator would not hesitate to do the due diligence required to better assure the

people of Goliad County that our aquifers will not be contaminated. The technical assurance, I feel that would address the concerns are:

1. Obtain High Resolution 3-D Seismic to identify impermeable barriers and faults to be able to better model the injection and water flooding processes. This would ensure that the models are correct and that all products and byproducts of the operations stay within the operating area.

2. Perform injection test to ensure the injection fluid will not fracture the formations and the contaminants generated will not be migrating beyond the bounds of the area they intend to operate. In conjunction with the above, this would ensure that the injected fluids follow a direct path to the production well rather than a course of least resistance away from the production well. More importantly, these test would show that the geological faults are really barriers to migration beyond the operating area.

3. Perform extensive pump tests to ensure existing drinking water wells will not be affected. This would ensure that neighboring water wells will not be affected.

It is my opinion, based on my experience, that these tests will show that the projected path of the injected fluids cannot be controlled and that eventually the aquifers will be contaminated. This also explains why, at the end of these mining operations, no mining operators have been able to return the aquifer to their original in-situ state.

It may be argued that obtaining this additional assurance would make the mining costs prohibitive, but I would argue that if costs override the safety concerns, then the operation should not be allowed to proceed.

It is ironic that these test measures are not taken as part of the engineering study, as they would allow for strategic placement of the injection and production wells, increase the accuracy of the models, and increase production.

If the mining operation is allowed to proceed, I believe that additional monitoring wells are needed based on the uncertainty of the path of the injected fluids. I also believe an extensive and a detailed contingency plan is needed to mitigate the excursions that might occur, although, I also believe, that if an excursion is detected, it is already too late to contain the contaminants.

Ernest Alaniz
Concerned Goliad Citizen